# Forestland Interpretations

Forestland interpretations are important to good management. The management of trees begins with an understanding of the soil where they grow or are to be grown. Some soils are very suitable for growing wood crops; others barely support tree cover. Different tree species may vary in production on the same soil.

Forestland interpretations should be used to assist land users in planning, installing, and maintaining forestland management systems.

# Forest Management and Productivity

The Forestland Management and Productivity tables presents information about suitable for producing timber for each soil map unit. Management concerns, which include hand planting, mechanical planting, use of harvesting equipment, mechanical site preparation (surface), roads (natural surface), erosion on roads and trails, off-road/trail erosion, soil rutting, log landings, seedling survival, are listed by ratings of:

- Not Limited (0.00)
- Slightly Limited (0.01 to 0.30)
- Moderately Limited (0.31 to 0.60)
- Limited (0.61 to 0.99)
- Very Limited (1.00)

Information on potential productivity includes plant competition, common trees, site index, productivity class, and trees to plant.

## Management Concerns

**PLANT COMPETITION** - A rating of slight indicates little or no competition from other plants; moderate indicates that plant competition is expected to hinder the development of the fully stocked stand of desirable trees; and severe means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

**POTENTIAL PRODUCTIVITY -** This is discussed under the ordination class symbol.

**COMMON TREES** - Trees that generally occur on the soil are listed regardless of economic importance.

**SITE INDEX AND PRODUCTIVITY CLASS** - These are discussed under ordination class symbol.

**TREES TO PLANT** - Trees that are suitable for commercial wood production and that are adapted to the soil.

**HAND PLANTING** – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

**MECHANICAL PLANTING** – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

**USE OF HARVEST EQUIPMENT** – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off –road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

**MECHANICAL SITE PREPARATION (SURFACE)** – ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

**ROADS (NATURAL SURFACE)** – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

**EROSION** (**ROAD/TRAIL**) – ratings are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

**EROSION (OFF-ROAD/OFF-TRAIL)** – ratings are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

**SOIL RUTTING** – ratings are based on a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ratings indicate the hazard or risk of ruts in the uppermost soil surface layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

**LOG LANDINGS** – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and allows the efficient and effective use of equipment for the temporary storage and handling of logs.

**SEEDLING SURVIVAL** – ratings are based on flooding, ponding, a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

See the National Forestry Manual, Subpart B for criteria used in rating management concerns.

This subsection includes:

• (a) Forest Management (one or two tables)

#### Forest Management

Map symbol and soil name	  Erosion on roads and 	trails	Off-road or off-tra erosion	il	Soil rutting		Log landings		Seedling surviva	al
	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value   	Rating class and limiting features	Value	Rating class and limiting features	Value
64000: Racoon	  Not limited 		   Slightly limited   ~slope/erodibility   (slightly limited)	0.02	Very limited  ~seasonal wetness   (very limited)  ~low strength   (limited)	1.00	  Very limited  ~seasonal wetness   (very limited)  ~low strength   (moderately limited)	1.00	  Very limited  ~seasonal wetness   (very limited)	1.00
64001: Freeburg	  Slightly limited  ~slope/erodibility   (slightly limited)	0.22	  Slightly limited  ~slope/erodibility   (slightly limited)	0.05	Limited -low strength (limited) -seasonal wetness (slightly limited)	0.80	   Moderately limited   ~low strength   (moderately limited)   ~seasonal wetness   (slightly limited)	0.50	  Not limited   	
66003: Jemerson	  Slightly limited  ~slope/erodibility   (slightly limited)	0.22	  Slightly limited  ~slope/erodibility   (slightly limited)	0.05	  Limited  ~low strength   (limited)	0.80	  Moderately limited  ~low strength   (moderately limited)	      0.50	  Not limited 	
66005: Deible	  Slightly limited  ~slope/erodibility   (slightly limited)	0.11	  Slightly limited  ~slope/erodibility   (slightly limited) 	0.02	Limited  ~seasonal wetness  (limited)  ~low strength  (limited)	  0.91    0.80	  Limited  ~seasonal wetness   (limited)  ~low strength   (moderately limited)	  0.91    0.50	  Limited  ~seasonal wetness   (limited)	0.91
70028: Moko	  Not limited   		  Slightly limited  ~slope/erodibility   (slightly limited)	0.18	  Moderately limited  ~low strength   (moderately limited) 	    0.50   	  Moderately limited  ~slippage potential   (moderately limited)  ~slope   (moderately limited)	    0.50    0.45	  Very limited  ~droughty   (very limited) 	1.00
Rock outcrop	  Not rated     		  Not rated   		  Not rated   	     	  Not rated   	     	  Not rated     	     

#### Forest Management

Map symbol and soil name	  Erosion on roads and t   	   Off-road or off-tra   erosion	il	Soil rutting		   Log landings   		Seedling survival		
	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70029: Moko	  Not limited   	         	  Limited  ~slope/erodibility   (limited)	0.63	  Not limited     		  Very limited  ~slope   (very limited)  ~slippage potential   (moderately limited)	    1.00    0.50	  Very limited  ~droughty   (very limited)	1.00
Rock outcrop	  Not rated 	   	  Not rated 		  Not rated 		  Not rated 		  Not rated 	
73012: Gravois	  Limited  ~slope/erodibility  (limited)  ~slope/erodibility  (moderately limited)	      0.67    0.50	    Slightly limited  ~slope/erodibility   (slightly limited)	        0.15   	  Limited  ~low strength  (limited)  ~seasonal wetness  (slightly limited)	0.80	Moderately limited ~low strength (moderately limited)  ~seasonal wetness (slightly limited)	      0.50    0.26	    Not limited   	
73035: Gravois	  Very limited  ~slope/erodibility   (very limited)  ~slope/erodibility   (moderately limited)	  1.00  0.50	  Slightly limited  ~slope/erodibility   (slightly limited) 	    0.27       	  Limited  ~low strength   (limited)  ~seasonal wetness   (slightly limited)	0.80	Limited  ~slope  (limited)  ~low strength  (moderately limited)  ~seasonal wetness  (slightly limited)	0.68	  Not limited     	
73088: Rueter	  Very limited  ~slope/erodibility   (very limited)  ~slope/erodibility   (moderately limited)	  1.00    0.50	  Slightly limited  ~slope/erodibility   (slightly limited) 	0.24	  Not limited     		Limited  ~slope   (limited)  ~slippage potential   (moderately limited)	0.76	  Slightly limited  ~droughty   (slightly limited)  ~soil reaction   (slightly limited)	  0.19    0.18

#### Forest Management

Map symbol and soil name	  Erosion on roads and   	trails	Off-road or off-tra erosion	il	   Soil rutting   		   Log landings   		Seedling surviva	al
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73089: Rueter	  Very limited  ~slope/erodibility   (very limited)  ~slope/erodibility   (limited)	    1.00    0.95	  Moderately limited  ~slope/erodibility   (moderately limited) 	0.49	  Not limited   		  Very limited  ~slope   (very limited)  ~slippage potential   (moderately limited)	1.00	Slightly limited  ~droughty   (slightly limited)  ~soil reaction   (slightly limited)	0.19
73090: Useful	  Limited  ~slope/erodibility   (limited)  ~slope/erodibility   (moderately limited)	    0.67    0.50	  Slightly limited  ~slope/erodibility   (slightly limited) 	    0.15     	  Limited  ~low strength   (limited) 	0.80	  Moderately limited  ~low strength   (moderately limited) 	      0.50   	  Not limited 	
73091: Useful, eroded-	  Very limited  ~slope/erodibility   (very limited)  ~slope/erodibility   (moderately limited)	  1.00    0.50	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.29     	  Limited  ~low strength   (limited) 	0.80	  Limited  ~slope   (limited)  ~low strength   (moderately limited)	  0.76    0.50	  Not limited 	
73092: Gatewood	  Not limited     		  Slightly limited  ~slope/erodibility   (slightly limited)	  0.14     	  Slightly limited  ~seasonal wetness   (slightly limited)	0.15	  Slightly limited  ~slope   (slightly limited)  ~seasonal wetness   (slightly limited)	  0.15    0.15	  Not limited   	
73093: Gatewood	  Not limited   		  Slightly limited  ~slope/erodibility   (slightly limited)	    0.24   	  Slightly limited  ~seasonal wetness   (slightly limited) 	0.15	  Limited  ~slope   (limited)  ~seasonal wetness   (slightly limited)	  0.76    0.15	  Not limited 	

#### Forest Management

Map symbol and soil name	  Erosion on roads and 	trails	Off-road or off-tra erosion	il	   Soil rutting   		   Log landings   		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value   	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73094: Gatewood	  Not limited 		  Moderately limited  ~slope/erodibility   (moderately limited)	    0.49   	  Slightly limited  ~seasonal wetness   (slightly limited)	      0.15   	  Very limited  ~slope   (very limited)  ~seasonal wetness   (slightly limited)	    1.00    0.15	  Not limited   	
73095: Gravois	  Very limited  ~slope/erodibility   (very limited)  ~slope/erodibility   (limited)	1.00	   Moderately limited   ~slope/erodibility   (moderately limited) 	    0.41       	Limited  -low strength   (limited)  -seasonal wetness   (slightly limited)	0.80	   Very limited   ~slope   (very limited)   ~low strength   (moderately limited)   ~seasonal wetness   (slightly limited)	  1.00    0.50    0.26	  Not limited   	
73097: Swiss	  Very limited  ~slope/erodibility   (very limited)  ~slope/erodibility   (limited)	1.00	  Moderately limited  ~slope/erodibility   (moderately limited)	    0.49   	  Limited  ~low strength   (limited)	0.80	  Very limited  ~slope   (very limited)  ~low strength   (moderately limited)	  1.00    0.50	  Not limited   	
73098: Plato	  Slightly limited  ~slope/erodibility   (slightly limited)	0.22	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.05   	  Limited  ~low strength  (limited)  ~seasonal wetness  (moderately limited)	0.80	  Moderately limited  ~seasonal wetness  (moderately limited)  ~low strength  (moderately limited)	  0.56    0.50	  Moderately limited  ~seasonal wetness   (moderately limited)	0.51
73106: Mariosa	  Slightly limited  ~slope/erodibility   (slightly limited)	0.11	  Slightly limited  ~slope/erodibility   (slightly limited) 	0.02	  Limited  ~seasonal wetness  (limited)  ~low strength  (limited)	  0.91    0.80	  Limited  ~seasonal wetness   (limited)  ~low strength   (moderately limited)	  0.91    0.50	  Limited  ~seasonal wetness   (limited) 	0.91

#### Forest Management

Map symbol and soil name	  Erosion on roads and t 	crails	Off-road or off-tra: erosion	il	   Soil rutting   		   Log landings   		   Seedling surviva 	al
	Rating class and limiting features	Value	Rating class and limiting features	Value   	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73108: Gravois	  Limited  ~slope/erodibility   (limited)  ~slope/erodibility   (moderately limited)	0.67	  Slightly limited  ~slope/erodibility   (slightly limited) 	0.15	Limited  ~low strength  (limited)  ~seasonal wetness  (slightly limited)	0.80	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	0.50	  Not limited   	
Gatewood	  Not limited 	     	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.12 	  Slightly limited  ~seasonal wetness   (slightly limited)	0.15	  Slightly limited  ~seasonal wetness   (slightly limited)	0.15	  Not limited 	
73109: Alred	  Not limited 	         	  Moderately limited  ~slope/erodibility   (moderately limited) 	      0.49   	  Limited  ~low strength   (limited) 	0.80	  Very limited  ~slope   (very limited)  ~low strength   (moderately limited)	    1.00    0.50	  Slightly limited  ~droughty   (slightly limited)	0.08
73112: Gunlock	  Limited  ~slope/erodibility  (limited)  ~slope/erodibility  (moderately limited)	      0.67    0.50	  Slightly limited  ~slope/erodibility   (slightly limited) 	      0.15   	  Limited  ~low strength   (limited)  ~seasonal wetness   (slightly limited)	0.80	   Moderately limited   ~low strength   (moderately limited)   ~seasonal wetness   (slightly limited)	0.50	  Not limited   	
73135: Union	  Limited  ~slope/erodibility   (limited)  ~slope/erodibility   (moderately limited)	    0.67    0.50	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.15   	  Limited  ~low strength   (limited)  ~seasonal wetness   (slightly limited)	0.80	   Moderately limited   ~low strength   (moderately limited)   ~seasonal wetness   (slightly limited)	0.50	  Not limited 	
73136: Union	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.22   	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.05   	  Limited  ~low strength   (limited)  ~seasonal wetness   (slightly limited)	0.80	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	0.50	  Not limited     	

#### Forest Management

Map symbol and soil name	Erosion on roads and	trails	Off-road or off-tra erosion	il	Soil rutting		Log landings		Seedling surviva	al
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73158: Cotton	  Limited  ~slope/erodibility  (limited)  ~slope/erodibility  (moderately limited)	0.78	  Slightly limited  ~slope/erodibility   (slightly limited)	                 	  Limited  ~seasonal wetness  (limited)  ~low strength  (limited)	0.85	Limited  -seasonal wetness   (limited)  -low strength   (moderately limited)  -slope   (slightly limited)	0.85	  Limited  ~seasonal wetness   (limited)	0.85
73165: Knobby	  Not limited   		  Limited  ~slope/erodibility   (limited)	      0.88     	  Not limited   		  very limited  ~slope   (very limited)  ~slippage potential   (moderately limited)  -very sandy (surface)   (moderately limited)	  0.50 	  Very limited  ~droughty   (very limited)  ~soil reaction   (limited)	1.00
Rock outcrop	  Not rated 	   	  Not rated 		  Not rated 		  Not rated 		  Not rated 	
Bardley	  Not limited   	             	  Limited  ~slope/erodibility   (limited)	      0.88     	  Not limited   		  very limited  ~slope   (very limited)  ~large surface stones   (moderately limited)  ~surface stones   (moderately limited)		  Not limited 	
73168: Swiss	  Very limited  ~slope/erodibility   (very limited)  ~slope/erodibility   (moderately limited)	    1.00    0.50	  Slightly limited  ~slope/erodibility   (slightly limited)	0.20	  Limited  ~low strength   (limited)	0.80	  Moderately limited  ~slope   (moderately limited)  ~low strength   (moderately limited)	0.50	  Not limited   	

#### Forest Management

Map symbol and soil name	Erosion on roads and	trails	Off-road or off-tra erosion	il	Soil rutting		Log landings		Seedling surviva	al
	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73192: Beemont	  Not limited		  Slightly limited  ~slope/erodibility   (slightly limited)	0.12	  Limited  ~low strength  (limited)  ~seasonal wetness  (slightly limited)	0.80	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	0.50	  Not limited 	
73193: Beemont	  Not limited 	         	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.24   	  Slightly limited  ~seasonal wetness   (slightly limited)	0.10	Limited  ~slope   (limited)  ~seasonal wetness   (slightly limited)	  0.76    0.10	  Not limited 	
73194: Beemont	Not limited		   Moderately limited   ~slope/erodibility   (moderately limited) 	    0.49   	  Slightly limited  ~seasonal wetness   (slightly limited)	0.10	  Very limited  ~slope   (very limited)  ~seasonal wetness   (slightly limited)	1.00	  Not limited   	
73195: Useful	  - Limited  ~slope/erodibility  (limited)  ~slope/erodibility  (moderately limited)	  0.67    0.50	  Slightly limited  ~slope/erodibility   (slightly limited) 	    0.15   	  Limited  ~low strength   (limited) 	0.80	Moderately limited ~low strength (moderately limited)	    0.50   	  Not limited 	
Moko	Not limited		  Slightly limited  ~slope/erodibility   (slightly limited)	    0.12 	  Not limited 		  Moderately limited  ~slippage potential   (moderately limited)	    0.50 	  Very limited  ~droughty   (very limited)	1.00
73196: Mariosa	  - Not limited 		  Slightly limited  ~slope/erodibility   (slightly limited)	      0.05   	  Limited  ~seasonal wetness   (limited)  ~low strength   (limited)	0.91	  Limited  ~seasonal wetness   (limited)  ~low strength   (moderately limited)	    0.91    0.50	  Limited  ~seasonal wetness   (limited)	0.91

#### Forest Management

Map symbol and soil name	Erosion on roads and trails		   Off-road or off-tra   erosion 	il	   Soil rutting   		   Log landings   		Seedling survival	
	Rating class and limiting features	Value   	Rating class and limiting features	Value	Rating class and limiting features	Value    -	Rating class and limiting features	Value	Rating class and limiting features	Value
74633: Hartville	  Slightly limited  ~slope/erodibility   (slightly limited)	0.22	  Slightly limited  ~slope/erodibility   (slightly limited)	0.05	Limited  ~low strength  (limited)  ~seasonal wetness  (slightly limited)	0.80	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	0.50	  Not limited	
74634: Hartville	  Limited  ~slope/erodibility   (limited)  ~slope/erodibility   (moderately limited)	  0.67    0.50	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.15   	Limited  -low strength   (limited)  -seasonal wetness   (slightly limited)	0.80	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	  0.50    0.29	  Not limited     	
74656: Deible	Slightly limited  ~slope/erodibility   (slightly limited)	      0.22   	   Slightly limited   ~slope/erodibility   (slightly limited) 	    0.05   	  Limited  ~seasonal wetness   (limited)  ~low strength   (limited)	0.91	Limited  ~seasonal wetness   (limited)  ~low strength   (moderately limited)	    0.91    0.50	  Limited  ~seasonal wetness   (limited)	0.91
75376: Cedargap	  Slightly limited  ~slope/erodibility   (slightly limited)	      0.11   	  Slightly limited  ~slope/erodibility   (slightly limited)	      0.02   	  Limited  ~low strength   (limited) 	0.80	  Very limited  ~flooding   (very limited)  ~low strength   (moderately limited)	    1.00    0.50	  Limited  ~flooding   (limited)	0.90
75389: Hacreek	  Slightly limited  ~slope/erodibility   (slightly limited)	    0.11   	  Slightly limited  ~slope/erodibility   (slightly limited) 	    0.02     	Limited  -low strength   (limited)  -seasonal wetness   (limited)	0.80	Limited  -seasonal wetness   (limited)  -low strength   (moderately limited)	    0.62    0.50	  Limited  ~seasonal wetness   (limited) 	0.62

#### Forest Management

Map symbol and soil name	Erosion on roads and trails   		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value   	Rating class and limiting features	Value 	Rating class and limiting features	Value
75395: Jamesfin	  Not limited 		  Slightly limited  ~slope/erodibility   (slightly limited)	0.02	  Limited  ~low strength   (limited)	0.80	  Moderately limited  ~flooding   (moderately limited)  ~low strength   (moderately limited)	0.60	  Moderately limited  ~flooding   (moderately limited)	0.60
75398: Kaintuck	  Not limited 		  Slightly limited  ~slope/erodibility  (slightly limited)	0.04	  Moderately limited  ~low strength   (moderately limited)	1	  Very limited  ~flooding   (very limited)	    1.00 	  Limited  ~flooding   (limited)	0.90
75399: Jamesfin	  Not limited 		  Slightly limited  ~slope/erodibility   (slightly limited)	0.02	  Limited  ~low strength   (limited)	    0.80   	  Very limited  ~flooding   (very limited)  ~low strength   (moderately limited)	  1.00    0.50	  Limited  ~flooding   (limited)	0.90
75400: Gladden	  Slightly limited  ~slope/erodibility   (slightly limited)	0.22	  Slightly limited  ~slope/erodibility   (slightly limited)	0.04	  Limited  ~low strength   (limited) 	      0.80   	  Very limited  ~flooding   (very limited)  ~low strength   (moderately limited)	    1.00    0.50	  Limited  ~flooding   (limited) 	0.90
75408: Secesh	  Slightly limited  ~slope/erodibility   (slightly limited)	0.17	  Slightly limited  ~slope/erodibility   (slightly limited)	0.03	  Limited  ~low strength   (limited) 	    0.80   	   Moderately limited  ~slippage potential   (moderately limited)  ~low strength   (moderately limited)	  0.50    0.50	  Not limited 	
99000: Pits, quarries-	  Not rated 		  Not rated 		  Not rated 	[   	  Not rated 	 	  Not rated	
99001: Water	    Not rated 		    Not rated 		  Not rated		  Not rated	 	  Not rated	